Jeffries, Dawn (DEQ)

From: Jeffries, Dawn (DEQ)
Sent: Thursday, April 02, 2015 3:00 PM
To: 'mlegge@clarkecounty.gov'
Cc: 'Art Nair'
Subject: Boyce STP, VPDES Permit No. VA0085171, Clarke County

Dear Mr. Legge:

Your application has been reviewed and appears to be complete. The waivers you requested from sampling and reporting pH, flow, $cBOD_5$, fecal coliform, TSS, and temperature have been granted. The next steps involve assembling the information necessary to develop the permit limitations and then drafting the permit. Once the draft permit is prepared and the appropriate reviews are performed, I will transmit the draft permit and supporting documentation to you for review. I expect to have this draft permit package to you within the next 3 months.

The Department of Environmental Quality strives to complete the permitting process in a timely manner. If you have any questions about our procedures or the status of your draft permit, please do not hesitate to contact us.

Sincerely,
Dawn Jeffries
VA Dept. of Environmental Quality
Valley Regional Office
P.O. Box 3000
Harrisonburg, Virginia 22801
540-574-7898
dawn.jeffries@deq.virginia.gov

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

4411 Early Road - P.O. Box 3000 Harrisonburg, VA 22801

SUBJECT: Application Errata for VPDES Permit No. VA0085171, Boyce STP, Clarke County

TO: PP File

FROM: Dawn Jeffries

DATE: March 31, 2015

The following deficiencies were noted in the subject permit reissuance application:

Form 2A

Item A.12. The applicant requested waivers for pH, flow rate, $BOD_5/CBOD_5$, fecal coliform, temperature and TSS. The waivers are granted based on the rationale provided by the applicant.

Item A.10.b. The discharge is the Shenandoah River/Spout Run watershed.

Sewage Sludge Disposal Application

Item 1. Sludge is not sent to another facility for blending. "No' should be indicated. Verified by Dan Ruggles at site visit.

The deficiencies noted are insignificant and will not affect the preparation of a legally and technically defensible draft permit.

Reviewer Concurrence: BWR 4/2/15

Inboden Environmental Services, Inc.
IES

5790 Main Street
Mt. Jackson, VA 22842

(540) 477-3300
TOLL-FREE: (800) 648-1010
FAX: (540) 477-3360
WEB: www.4ies.com

March 27, 2015

Ms. Dawn Jeffries
Commonwealth of Virginia
Department of Environmental Quality
P.O. Box 3000
Harrisonburg, VA 22801

DEQ VALLEY
MAR 30 2015
To:
Date:

Re: Clarke County Sanitary Authority Boyce STP
Permit Reissuance Application, Permit No. VA0085171

Dear Ms. Jeffries,

I have enclosed one signed original and one copy of the VPDES Reissuance Application for the facility noted above. This is submitted for your review, approval and reissuance of the VPDES permit. The application package includes:

1. VPDES Permit Application Addendum
2. VPDES/VPA Permit Billing Information Form for Annual Maintenance Fee
3. Public Notice Billing Information
4. EPA Form 2A
5. Location Map
6. Process Schematics and Plans
7. VPDES Sewage Sludge Permit Application for Permit Reissuance
8. Sludge Disposal Request and Acceptance email from Frederick Co. Landfill
9. Sludge Testing Results

We request waivers from submitting analytical data for Form 2A Part A Item A.12 Effluent Testing Information, parameters: pH, Flow Rate, BOD/COD, Fecal Coliform and TSS. The parameters pH, flow rate, COD, E.coli and TSS have been regularly sampled and analyzed throughout the term of the current permit and regularly reported to DEQ through the monthly DMRs. The current permit has not required monitoring of temperature, but the treatment process operates at ambient temperatures and does not add or extract heat as part of the process.

By copy of this letter we are forwarding a copy of the application to VDH.

If you have any questions please feel free to contact me.

Sincerely,

Arthur W. Nair, P.E.
Environmental Consultant
Inboden Environmental Services, Inc.

Enclosures: As stated
cc: Michael Legge
Harold Eberly, VDH

VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued:** Clarke County Sanitary Authority
   Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. **Is this facility located within city or town boundaries?** ☑ YES ☐ NO
   Include a topographic map identifying the location of the facility, the property boundaries, and the discharge point.

3. **What is the tax map parcel number for the land where this facility is located?** 21A1-A-84A

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** 0.0

5. ALL FACILITIES: **What is the design average flow of this facility?** 0.099 MGD
   Industrial facilities: **What is the maximum 30-day avg. production level (include units)?** N/A

   In addition to the above design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? ☐ YES ☑ NO

   If "Yes", please specify the other flow tiers (in MGD) or production levels: N/A
   Please consider: Is your facility's design flow considerably greater than your current flow? Do you plan to expand operations during the next five years?

6. **Nature of operations generating wastewater:**
   Domestic and Commercial Sewage

   78 % of flow from domestic connections/sources
   Number of private residences to be served by the wastewater treatment facilities: ☐ 0 ☐ 1-49 ☐ 50 or more

   22 % of flow from non-domestic connections/sources

7. **Mode of discharge:** ☑ Continuous ☐ Intermittent ☐ Seasonal
   Describe frequency and duration of intermittent or seasonal discharges:

8. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point:**
   ☑ Permanent stream, never dry
   ☐ Intermittent stream, usually flowing, sometimes dry
   ☐ Ephemeral stream, wet-weather flow, often dry
   ☐ Effluent-dependent stream, usually or always dry
   ☐ Lake or pond at or below the discharge point
   ☐ Other:

9. **Consent to receive electronic mail**
   The Department of Environmental Quality (DEQ) may deliver permits, certifications and plan approvals to recipients, including applicants or permittees, by electronically certified mail where the recipients notify DEQ of their consent to receive mail electronically (§ 10.1-1183). Check *only one* of the following to consent to or decline receipt of electronic mail from DEQ as follows:

   ☑ Applicant or permittee agrees to receive by electronic mail the permit and any plan approvals associated with the permit that may be issued for the proposed pollutant management activity, and to certify receipt of such electronic mail when requested by the DEQ.
   Please provide email: mlegge@clarkecounty.gov and to: anair@4ies.com

   ☐ Applicant or permittee declines to receive by electronic mail the permit and any plan approvals associated with the permit that may be issued for the proposed pollutant management activity.

VPDES/VPA Permit Billing Information Form
for Annual Maintenance Fee

Facility Name: Boyce STP

Permit Number: VA0085171

Owner Name: Clarke County Sanitary Authority

Owner Address: P.O. Box 327

Berryville, VA 22611

Billing Contact Name: Mike Legge

Title: Administrator

Phone Number: 540 955-5185

E-Mail Address: mlegge@clarkecounty.gov

DEQ VALLEY

MAR 3 0 2015

To:

Date:

PUBLIC NOTICE BILLING INFORMATION

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in The Northern Virginia Daily in accordance with 9 VAC 25-31-290.C.2.

Agent/Department to be billed: Michael Legge

Owner: Clarke County Sanitary Authority

Agent/Department Address: P.O. Box 327

Berryville, VA 22611

Agent's Telephone No.: 540 955-5185

Printed Name: Michael Legge

Authorizing Agent – Signature: Michael Legge

Date: 3/23/2015

Facility Name: Boyce STP

VPDES Permit No. VA0085171

DEQ VALLEY

MAR 3 0 2015

To:

Date:

FACILITY NAME AND PERMIT NUMBER:

Boyce STP VA0085171

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility name: Boyce STP

Mailing Address: P.O. Box 327
Berryville, VA 22611

Contact person: Mike Legge

Title: Administrator

Telephone number: (540) 955-5185

Facility Address (not P.O. Box): 125 East Main Street
Boyce, VA 22620

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name:

Mailing Address:

Contact person:

Title:

Telephone number:

DEQ VALLEY
MAR 30 2015
To:
Date:

Is the applicant the owner or operator (or both) of the treatment works?

✓ owner ✓ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

_____ facility ✓ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES	VA0085171	PSD	
UIC		Other	VAN010107
RCRA		Other	

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
Boyce	445	Seperate	Municipal
Waterloo	Commercial Only	Seperate	Municipal
Milwood	130	Seperate	Municipal
Total population served	575		

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

_____ Yes ✓ No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

_____ Yes ✓ No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 0.099 mgd

	Two Years Ago	Last Year	This Year	
b. Annual average daily flow rate	0.0433	0.0491	0.0444	mgd
c. Maximum daily flow rate	0.104	0.111	0.117	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

✓ Separate sanitary sewer	100 %
_____ Combined storm and sanitary sewer	_____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? ✓ Yes _____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent	1
ii. Discharges of untreated or partially treated effluent	0
iii. Combined sewer overflow points	0
iv. Constructed emergency overflows (prior to the headworks)	0
v. Other _____	0

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? _____ Yes ✓ No

If yes, provide the following for each surface impoundment:

Location: _____

Annual average daily volume discharged to surface impoundment(s) _____ mgd

Is discharge _____ continuous or _____ intermittent?

c. Does the treatment works land-apply treated wastewater? _____ Yes ✓ No

If yes, provide the following for each land application site:

Location: _____

Number of acres: _____

Annual average daily volume applied to site: _____ Mgd

Is land application _____ continuous or _____ intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? _____ Yes ✓ No

DEQ VALLEY

MAR 3 0 2015

To: _____

Date: _____

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

N/A

If transport is by a party other than the applicant, provide:

Transporter name: N/A

Mailing Address: _____

_____

Contact person: _____

Title: _____

Telephone number: _____

For each treatment works that receives this discharge, provide the following:

Name: N/A

Mailing Address: _____

_____

Contact person: _____

Title: _____

Telephone number: _____

If known, provide the NPDES permit number of the treatment works that receives this discharge. _____

Provide the average daily flow rate from the treatment works into the receiving facility. NA mgd

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? _____ Yes ✓ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

N/A

Annual daily volume disposed of by this method: _____

Is disposal through this method _____ continuous or _____ intermittent?

DEQ VALLEY
MAR 3 0 2015
To: _____
Date: _____

FACILITY NAME AND PERMIT NUMBER:
Boyce STP VA0085171

Form Approved 1/14/99
OMB Number 2040-0086

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 **once for each outfall** (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. **If you answered "no" to question A.8.a**, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number 001

b. Location 0.25 miles south of Route 723 and U.S Route 340 (City or town, if applicable) 22620 (Zip Code)
Clarke (County) VA (State)
39 deg. 05 min. 18 sec. N (Latitude) 78 deg. 03 min. 51 sec W (Longitude)

c. Distance from shore (if applicable) N/A ft.

d. Depth below surface (if applicable) N/A ft.

e. Average daily flow rate 0.0444 mgd

f. Does this outfall have either an intermittent or a periodic discharge? ____ Yes ✓ No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: ____

Average duration of each discharge: ____

Average flow per discharge: ____ mgd

Months in which discharge occurs: ____

g. Is outfall equipped with a diffuser? ____ Yes ____ No

A.10. Description of Receiving Waters.

a. Name of receiving water Roseville Run

b. Name of watershed (if known) ____

United States Soil Conservation Service 14-digit watershed code (if known): Not Known

c. Name of State Management/River Basin (if known): Not Known

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): Not Know

d. Critical low flow of receiving stream (if applicable):
acute N/A cfs chronic N/A cfs

e. Total hardness of receiving stream at critical low flow (if applicable): N/A mg/l of $CaCO_3$

DEQ VALLEY
MAR 3 0 2015
To: ____
Date: ____

FACILITY NAME AND PERMIT NUMBER:
Boyce STP VA0085171

Form Approved 1/14/99
OMB Number 2040-0086

A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

✓ Primary ✓ Secondary
✓ Advanced _____ Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD_5 removal or Design $CBOD_5$ removal	98.6	%
Design SS removal	93.5	%
Design P removal	92.9	%
Design N removal	89.7	%
Other CBOD5	93.5	%

DEQ VALLEY
MAR 30 2015
To: _____
Date: _____

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.
Ultraviolet Radiation

If disinfection is by chlorination, is dechlorination used for this outfall? _____ Yes _____ No

d. Does the treatment plant have post aeration? ✓ Yes _____ No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	Waiver	s.u.			
pH (Maximum)	Waiver	s.u.			
Flow Rate	Waiver				
Temperature (Winter)	Waiver				
Temperature (Summer)	Waiver				

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.								
BIOCHEMICAL OXYGEN	BOD-5	Waiver						
DEMAND (Report one)	CBOD-5	Waiver						
FECAL COLIFORM		Waiver						
TOTAL SUSPENDED SOLIDS (TSS)		Waiver						

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Boyce STP VA0085171

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART C: CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

✓ Basic Application Information packet

Supplemental Application Information packet:

_____ Part D (Expanded Effluent Testing Data)

_____ Part E (Toxicity Testing: Biomonitoring Data)

_____ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

_____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title: Ian R. D. Williams, Chairman Clarke County Sanitary Authority

Signature: _____

Telephone number: (540) 667-~~1211~~ 1266

Date signed: 3/23/15

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

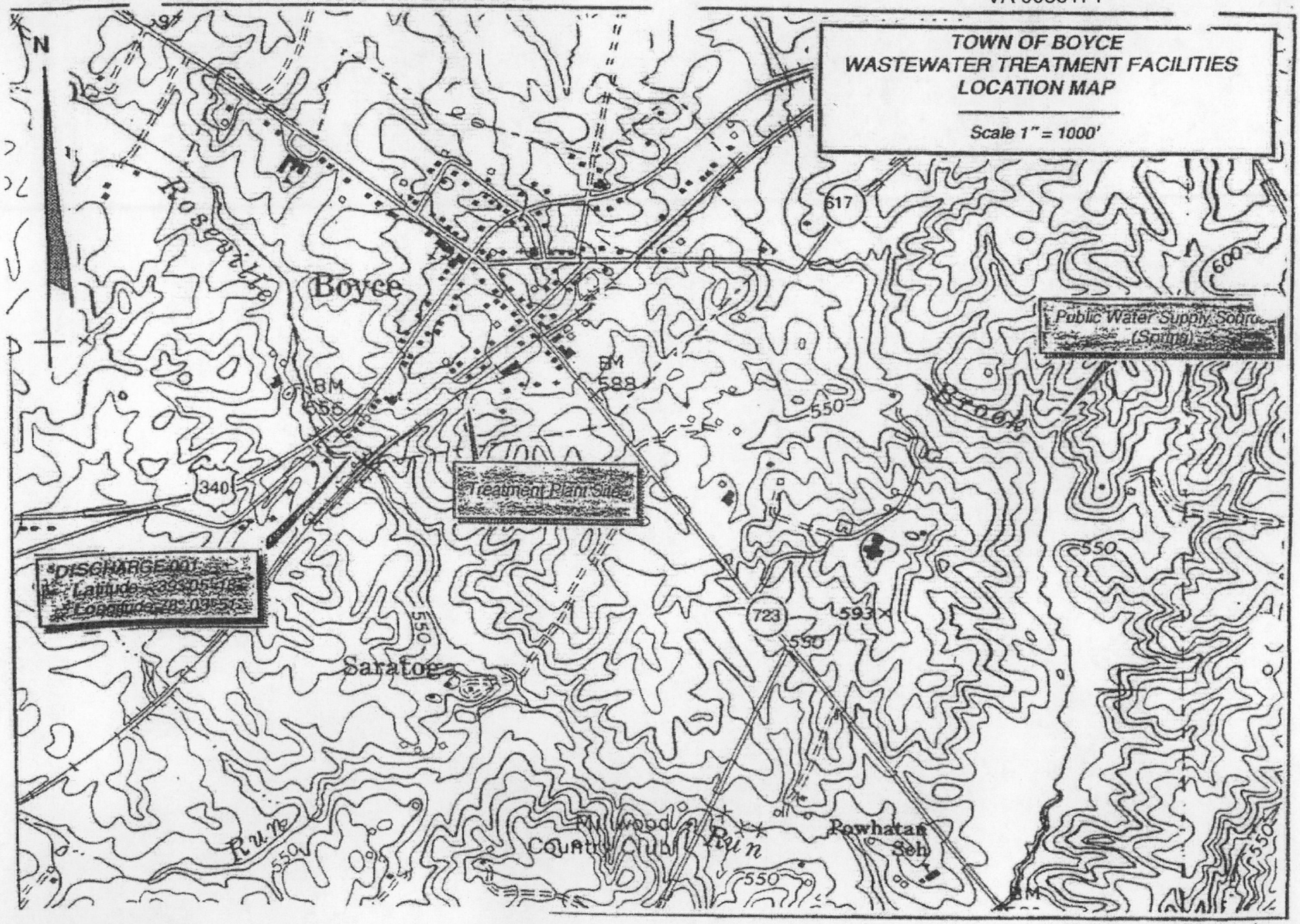
DEQ VALLEY

MAR 3 0 2015

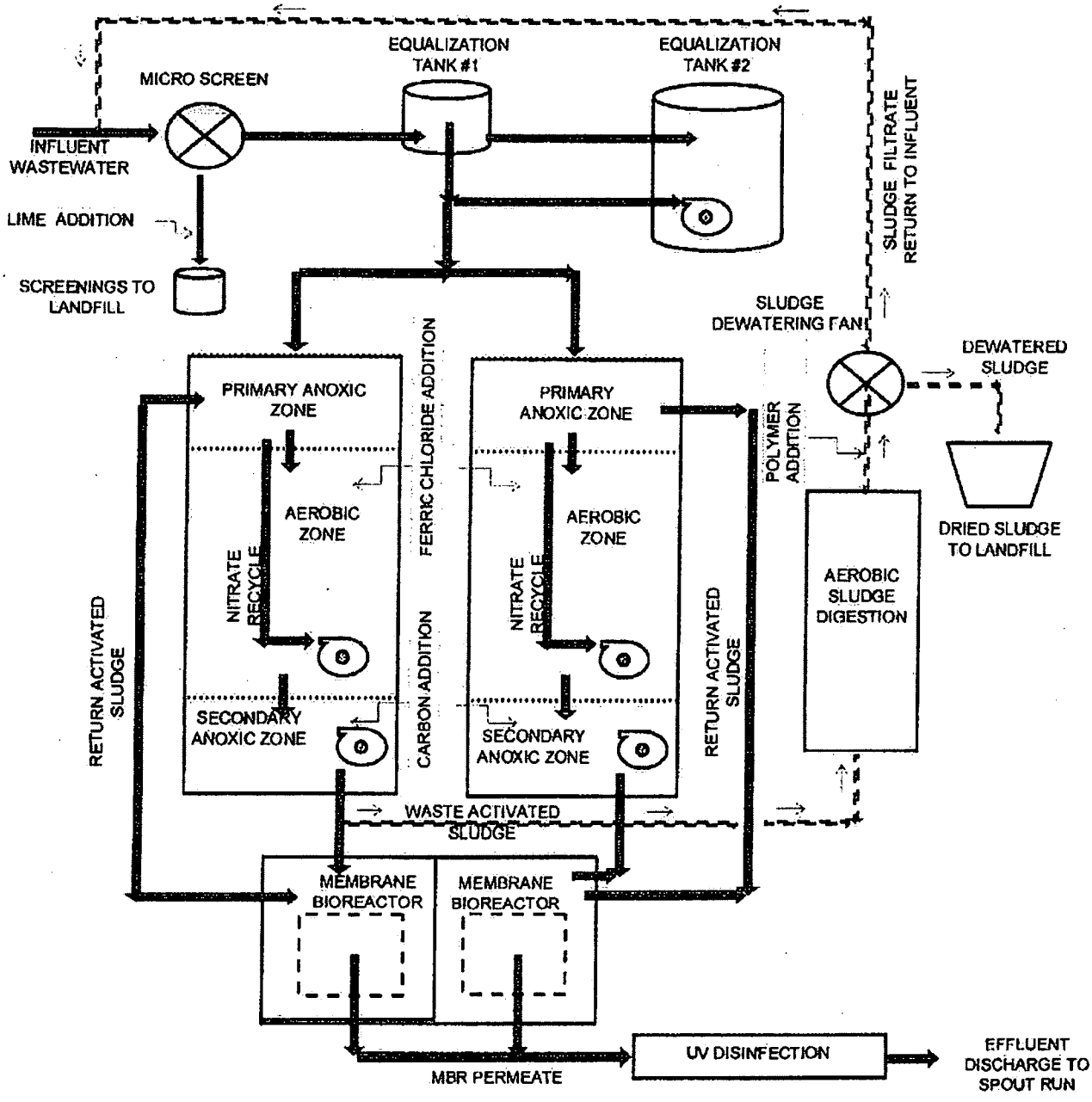
To: _____

Date: _____

CCSA BOYCE STP
VA 0085171



CLARK COUNTY SANITARY AUTHORITY
BOYCE WWTP
SCHEMATIC DIAGRAM



VPDES Sewage Sludge Permit Application for Permit Reissuance

Instructions

WHO MUST SUBMIT THE APPLICATION - All facilities with a current VPDES Permit that authorizes the discharge of treated sewage wastewater that are applying for reissuance must complete and submit this application.
Part 1 is general information to be provided by all facilities.
Part 2 must be completed by all facilities that generate Class A or Class B biosolids that are land applied.
Part 3 must be completed by all facilities that land apply Class B biosolids.

Part 1 - Sludge Disposal Management (To be completed by all facilities)

Facility Name: Boyce STP **VPDES Permit No:** VA0085171

1. Shipment Off Site for Treatment or Blending

Is sewage sludge from your facility sent to another facility that provides treatment or blending? ☐ Yes ☐ No

If you send sewage sludge to more than one facility, attach additional sheets as necessary.

Shipment off site is: ☐ The primary method of sludge disposal ☐ A back up method of sludge disposal

a. Receiving Facility Name _____

b. Receiving Facility VPDES Permit No. _____

c. Include an acceptance letter from the Receiving Facility.

d. Receiving Facility's ultimate disposal method for sewage sludge _____

2. Disposal in a Municipal Solid Waste Landfill

Is sewage sludge from your facility placed in a municipal solid waste landfill? ☑ Yes ☐ No

If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.

Landfilling is: ☑ The primary method of sludge disposal ☐ A back up method of sludge disposal

a. Landfill Name Frederick County Regional Landfill

b. Landfill Permit No. 529 Solid Waste Landfill

c. Include an acceptance letter from the landfill.

3. Incineration

Is sewage sludge from your facility fired in a sewage sludge incinerator? ☐ Yes ☑ No

Incineration is: ☐ The primary method of sludge disposal ☐ A back up method of sludge disposal

a. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired? ☐ Yes ☐ No

If yes, provide the Air Registration No. _____

If no, complete items b - d for each incinerator that you do not own or operate.

b. Facility Name _____

c. Air Registration No. _____

d. Include an acceptance letter from the Incinerator.

4. Class A Biosolids

Do you produce Class A biosolids for land application or distribution and marketing? If yes, complete Part 2. ☐ Yes ☑ No

Are Class A biosolids from your facility land applied in bulk? ☐ Yes ☐ No

Do you sell or give away Class A biosolids in a bag or other container for application to the land? If yes, provide the VDACS certification number? ☐ Yes ☐ No

_____

5. Class B Biosolids

Do you produce Class B biosolids? If yes, complete Part 2. ☐ *Yes* ☑ *No*

Are Class B biosolids from your facility land applied land applied under the authorization of this VPDES Permit? If yes, complete Part 3. ☐ *Yes* ☐ *No*

6. Land Application Under a Separate Permit

Are biosolids from your facility land applied under the authorization of a permit other than your VPDES Permit? ☐ Yes ☑ No

Biosolids are land applied under the authorization of a ☐ VPA permit ☐ Another VPDES Permit ☐ Out of State

Complete items a - c for each VPA permit authorized to land apply biosolids from your facility.

a. Permittee Name b. Permit No.

_____ _____

_____ _____

c. Include copy of any information you provide to the Receiving VPDES or VPA Permittee to comply with the "notice and necessary information" requirement of 9VAC25-31-530 F.

VPDES Sewage Sludge Permit Application for Permit Reissuance

Part 2 – Biosolids Characterization (To be completed by all facilities that generate biosolids that are land applied.)

1. Have there been changes to sludge treatment processes or storage facilities since the previous permit issuance/reissuance? ☐ Yes ☐ No
2. Do the biosolids generated under this permit that will be land applied meet one of the Class A pathogen requirements in 9VAC25-31-710 A 3 through A 8 or Class B pathogen requirements in 9VAC25-31-710 B 1 through B 4? ☐ Yes ☐ No

   Identify the pathogen reduction option utilized to demonstrate compliance with the pathogen reductions requirements and provide the data that demonstrate compliance with the applicable alternative. _____
3. Do the biosolids generated under this permit that will be land applied meet one of the vector attraction reduction requirements in 9VAC25-31-720 B 1 through B 10? ☐ Yes ☐ No

   Identify the vector attraction reduction option utilized to demonstrate compliance with the vector attraction reductions requirements and provide the data that demonstrate compliance with the applicable alternative. _____
4. Do the biosolids to be land applied meet the ceiling/pollutant concentrations in 9VAC25-31-540 B? ☐ Yes ☐ No
5. Has data from the most recent 3 samples for pH (S.U.), Percent Solids (%), Ammonium Nitrogen (mg/kg), Nitrate Nitrogen (mg/kg), Total Kjeldahl Nitrogen (mg/kg), Total Phosphorus (mg/kg), Total Potassium (mg/kg), Alkalinity as $CaCO_3$ (mg/kg), Arsenic (mg/kg), Cadmium (mg/kg), Copper (mg/kg), Lead (mg/kg), Mercury (mg/kg), Nickel (mg/kg), Selenium (mg/kg), Zinc (mg/kg) been submitted to DEQ? The samples shall be no more than 4½ years old and each sampling date shall be at least 1 month apart. ☐ Yes ☐ No

   If no, provide the data with this application.

Part 3 – Land Application of Class B Biosolids (To be completed by all facilities that land apply Class B biosolids.)

1. Provide to DEQ and to each locality in which biosolids are to be land applied, written evidence of financial responsibility. Evidence of financial responsibility shall be provided in accordance with 9VAC25-31-100 P 9.
2. For each site, provide a properly completed landowner agreement for each landowner, using the most current Land Application Agreement - Biosolids Form (VPDES Sewage Sludge Permit Application Form – Attachment to Section C).
3. Are any new land application fields proposed at this reissuance? ☐ Yes ☐ No

   If yes, contact the DEQ Regional Office for additional submittal requirements.
4. For the currently permitted land application fields, are the previously submitted site booklets, maps and acreage accurate. ☐ Yes ☐ No

   If no, contact the DEQ Regional Office for additional submittal requirements.
5. Does the facility's Biosolids Management Plan on file with DEQ include the following minimum information? ☐ Yes ☐ No
   a. An odor control plan that addresses the abatement of odors resulting from the storage and/or land application of biosolids.
   b. A description of the transport vehicles to be used.
   c. Procedures for biosolids offloading at the land application site including spill prevention, cleanup (including vehicle cleaning), field reclamation, and emergency notification and cleanup measures.
   d. A description of the land application equipment including procedures for calibrating equipment to ensure uniform distribution and appropriate loading rates.
   e. Procedures used to ensure that land application activities address notification requirements, signage requirements, slope restrictions, operation limitations during periods of inclement weather, soil pH requirements, buffer zone requirements, and site restrictions.
   f. Any other information necessary to ensure compliance with the requirements of the Biosolids Program of the VPDES Permit Regulation (9VAC25-31-420 through 720).

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Official Title: Ian Williams, Chairman, Clarke County Sanitary Authority

Signature: 

Telephone number / Email: (540) ~~931-8486~~ 667-1266 williams@harrison-johnston.com

Date signed: 3/23/15

(Based on a review of this information, it may be necessary to submit additional information to meet other legal or technical review requirements.)

Art Nair

From: Ron Kimble <rkimble@fcva.us>
Sent: Friday, March 20, 2015 10:35 AM
To: Art Nair
Subject: RE: Boyce Sludge

Art,

Based on the review of the attached lab analysis, the Frederick County Landfill will continue to accept sludge generated at the Boyce wastewater treatment plant.

Ron Kimble
Environmental Manager
Frederick County Landfill
rkimble@fcva.us
(540)665-5658

From: Art Nair [mailto:anair@4ies.com]
Sent: Wednesday, March 18, 2015 4:31 PM
To: Ron Kimble
Subject: RE: Boyce Sludge

Ron,

Please find the sludge TCLP results for Boyce STP VA0085171. The sample had a % solids of 16.1 percent. There was no free water observable in the sludge. We plan to dispose. We plan to dispose 30 dry metric tons per year.

Please evaluate the attached analysis. We would like a Letter (or email) of Sludge Acceptance for renewal of our VPDES permit. Let me know if you have any questions.

Thank you,

---Art

From: Ron Kimble [mailto:rkimble@fcva.us]
Sent: Friday, February 13, 2015 9:06 AM
To: anair@4ies.com
Subject: Boyce Sludge

Art,

As a follow up to our conversation yesterday, please provide analytical testing results on the sludge. Parameters should include metals, semi-volatiles, volatiles , and pesticides. In addition, please provide total percent solids and an estimated quantity of sludge for disposal. Please let me know if you need any additional information.

2019 Ninth Avenue
PO Box 1925
Altoona, PA 16603
(814) 946-4306
NELAP: PA 07-062, VA 460212

89 Kristi Road
Pennsdale, PA 17756
(570) 494-6380
PaDEP: PA 41-04684

State Certifications: MD 275, WV 364

FAIRWAY LABORATORIES
www.fairwaylaboratories.com

Inboden Environmental Services, Inc.	Project:	CCSA	
5790 Main Street	Project Number:	[none]	**Reported:**
Mt. Jackson VA, 22842	Collector:	DR	03/09/15 08:56
Project Manager: Mark Inboden	Number of Containers:	1	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
DRY SLUDGE	5B18015-01	Solid	Grab	02/10/15 10:37	02/18/15 09:30

Fairway Laboratories, Inc.

Reviewed and Submitted by:

Michael P. Tyler
Laboratory Director

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Inboden Environmental Services, Inc.	Project:	CCSA	
5790 Main Street	Project Number:	[none]	**Reported:**
Mt. Jackson VA, 22842	Collector:	DR	03/09/15 08:56
Project Manager: Mark Inboden	Number of Containers:	1	

Client Sample ID: DRY SLUDGE **Date/Time Sampled:** 02/10/15 10:37

Laboratory Sample ID: 5B18015-01 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
TCLP Metals by 6000/7000 Series Methods								
Silver	<0.0100		0.0100	mg/l	03/05/15 12:57	EPA 6010B/2.0	rab	
Arsenic	0.0416		0.0200	mg/l	03/05/15 12:57	EPA 6010B/2.0	rab	
Barium	<0.0500		0.0500	mg/l	03/05/15 12:56	EPA 6010B/2.0	rab	
Cadmium	<0.0100		0.0100	mg/l	03/05/15 12:57	EPA 6010B/2.0	rab	
Chromium	<0.0100		0.0100	mg/l	03/05/15 12:57	EPA 6010B/2.0	rab	
Mercury	<0.000200		0.000200	mg/l	02/27/15 09:32	EPA 7471B	nal	
Lead	<0.0200		0.0200	mg/l	03/05/15 12:57	EPA 6010B/2.0	rab	
Selenium	<0.0500		0.0500	mg/l	03/05/15 12:57	EPA 6010B/2.0	rab	
TCLP Semivolatile Organic Compounds by EPA Method 8270								
Pyridine	<100		100	ug/l	02/23/15 17:30	EPA 8270D	RSR	2d
1,4-Dichlorobenzene	<50.0		50.0	ug/l	02/23/15 17:30	EPA 8270D	RSR	
2,4-Dinitrotoluene	<50.0		50.0	ug/l	02/23/15 17:30	EPA 8270D	RSR	
3 & 4-Methylphenol	<100		100	ug/l	02/23/15 17:30	EPA 8270D	RSR	
Total Cresol	<100		100	ug/l	02/23/15 17:30	EPA 8270D	RSR	

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Inboden Environmental Services, Inc.	Project:	CCSA	
5790 Main Street	Project Number:	[none]	**Reported:**
Mt. Jackson VA, 22842	Collector:	DR	03/09/15 08:56
Project Manager: Mark Inboden	Number of Containers:	1	

Client Sample ID: **DRY SLUDGE** **Date/Time Sampled:** 02/10/15 10:37

Laboratory Sample ID: **5B18015-01 (Solid/Grab)**

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
TCLP Semivolatile Organic Compounds by EPA Method 8270								
Hexachlorobenzene	<50.0		50.0	ug/l	02/23/15 17:30	EPA 8270D	RSR	
Hexachlorobutadiene	<50.0		50.0	ug/l	02/23/15 17:30	EPA 8270D	RSR	
Hexachloroethane	<50.0		50.0	ug/l	02/23/15 17:30	EPA 8270D	RSR	
2-Methylphenol	<50.0		50.0	ug/l	02/23/15 17:30	EPA 8270D	RSR	
Nitrobenzene	<50.0		50.0	ug/l	02/23/15 17:30	EPA 8270D	RSR	
Pentachlorophenol	<250		250	ug/l	02/23/15 17:30	EPA 8270D	RSR	
2,4,5-Trichlorophenol	<50.0		50.0	ug/l	02/23/15 17:30	EPA 8270D	RSR	
2,4,6-Trichlorophenol	<50.0		50.0	ug/l	02/23/15 17:30	EPA 8270D	RSR	
Surrogate: 2-Fluorophenol		*68.8 %*	*35-115*		*02/23/15 17:30*	*EPA 8270D*	RSR	
Surrogate: Phenol-d6		*46.5 %*	*35-115*		*02/23/15 17:30*	*EPA 8270D*	RSR	
Surrogate: Nitrobenzene-d5		*143 %*	*35-115*		*02/23/15 17:30*	*EPA 8270D*	RSR	2n
Surrogate: 2-Fluorobiphenyl		*125 %*	*40-120*		*02/23/15 17:30*	*EPA 8270D*	RSR	2n
Surrogate: 2,4,6-Tribromophenol		*89.8 %*	*40-120*		*02/23/15 17:30*	*EPA 8270D*	RSR	
Surrogate: Terphenyl-d14		*128 %*	*40-120*		*02/23/15 17:30*	*EPA 8270D*	RSR	2n
								5b
TCLP Volatile Organic Compounds by EPA Method 1311/8260B								
Benzene	<50.0		50.0	ug/l	02/20/15 18:00	EPA 8260B	wlm	
2-Butanone	<500		500	ug/l	02/20/15 18:00	EPA 8260B	wlm	
Carbon tetrachloride	<50.0		50.0	ug/l	02/20/15 18:00	EPA 8260B	wlm	
Chlorobenzene	<50.0		50.0	ug/l	02/20/15 18:00	EPA 8260B	wlm	

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5790 Main Street	Project Number:	[none]	**Reported:**
Mt. Jackson VA, 22842	Collector:	DR	03/09/15 08:56
Project Manager: Mark Inboden	Number of Containers:	1	

Client Sample ID: DRY SLUDGE **Date/Time Sampled:** 02/10/15 10:37

Laboratory Sample ID: 5B18015-01 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
TCLP Volatile Organic Compounds by EPA Method 1311/8260B								5b
Chloroform	<50.0		50.0	ug/l	02/20/15 18:00	EPA 8260B	wlm	
1,2-Dichloroethane	<50.0		50.0	ug/l	02/20/15 18:00	EPA 8260B	wlm	
1,1-Dichloroethene	<50.0		50.0	ug/l	02/20/15 18:00	EPA 8260B	wlm	
Tetrachloroethene	<50.0		50.0	ug/l	02/20/15 18:00	EPA 8260B	wlm	
Trichloroethene	<50.0		50.0	ug/l	02/20/15 18:00	EPA 8260B	wlm	
Vinyl chloride	<50.0		50.0	ug/l	02/20/15 18:00	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene		*99.6 %*	*70-130*		*02/20/15 18:00*	*EPA 8260B*	wlm	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*70-130*		*02/20/15 18:00*	*EPA 8260B*	wlm	
Surrogate: Fluorobenzene		*91.6 %*	*70-130*		*02/20/15 18:00*	*EPA 8260B*	wlm	
TCLP Pesticides by EPA Method 1311/8081B								
gamma-BHC (Lindane)	<0.100		0.100	ug/l	02/20/15 08:05	EPA 8081B	RSR	
Chlordane (tech)	<5.00		5.00	ug/l	02/20/15 08:05	EPA 8081B	RSR	
Endrin	<0.100		0.100	ug/l	02/20/15 08:05	EPA 8081B	RSR	
Heptachlor	<0.100		0.100	ug/l	02/20/15 08:05	EPA 8081B	RSR	
Heptachlor epoxide	<0.100		0.100	ug/l	02/20/15 08:05	EPA 8081B	RSR	
Methoxychlor	<0.100		0.100	ug/l	02/20/15 08:05	EPA 8081B	RSR	
Toxaphene	<5.00		5.00	ug/l	02/20/15 08:05	EPA 8081B	RSR	AA
Surrogate: Tetrachloro-meta-xylene		*96.0 %*	*70-130*		*02/20/15 08:05*	*EPA 8081B*	RSR	

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Inboden Environmental Services, Inc.	Project:	CCSA	
5790 Main Street	Project Number:	[none]	**Reported:**
Mt. Jackson VA, 22842	Collector:	DR	03/09/15 08:56
Project Manager: Mark Inboden	Number of Containers:	1	

Client Sample ID: DRY SLUDGE **Date/Time Sampled:** 02/10/15 10:37

Laboratory Sample ID: 5B18015-01 (Solid/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
TCLP Pesticides by EPA Method 1311/8081B								
Surrogate: Decachlorobiphenyl		*103 %*	*70-130*		*02/20/15 08:05*	*EPA 8081B*	RSR	
TCLP Herbicides by EPA Method 1311/8151A								
2,4-D	<1.00		1.00	ug/l	02/21/15 11:19	EPA 8151A	RSR	
2,4,5-TP (Silvex)	<1.00		1.00	ug/l	02/21/15 11:19	EPA 8151A	RSR	
Surrogate: 2,4-DCAA		*66.1 %*	*70-130*		*02/21/15 11:19*	*EPA 8151A*	RSR	2n
Conventional Chemistry Parameters by SM/EPA Methods								
% Solids	16.1		0.100	%	02/18/15 14:54	SM20-2540G	arr	3a
TCLP Extraction by EPA 1311								
pH @ 18.3°C	5.02			pH Units	02/19/15 12:30	EPA 1311	bwg	

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Inboden Environmental Services, Inc.	Project:	CCSA	
5790 Main Street	Project Number:	[none]	**Reported:**
Mt. Jackson VA, 22842	Collector:	DR	03/09/15 08:56
Project Manager: Mark Inboden	Number of Containers:	1	

Notes

2d	The LCS spike recovery was outside acceptance limits. Data accepted based on additional batch QC.
2n	The surrogate value is not within the indicated range, results are considered to be estimated.
3a	This sample was received outside the EPA recommended holding time.
5b	The temperature during the extraction process exceeded the EPA method guidelines.
AA	CCV recovery is above the acceptance range. The sample data may reflect a high bias.

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Inboden Environmental Services, Inc.	Project:	CCSA	
5790 Main Street	Project Number:	[none]	**Reported:**
Mt. Jackson VA, 22842	Collector:	DR	03/09/15 08:56
Project Manager: Mark Inboden	Number of Containers:	1	

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Unless otherwise noted, all results for solids are reported on a dry weight basis.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

*	P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252 certified.
<	Represents "less than" - indicates that the result was less than the reporting limit.
MDL	Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.
RL	Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.
[CALC]	Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

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Inboden Environmental Services, Inc.	Project:	CCSA	
5790 Main Street	Project Number:	[none]	**Reported:**
Mt. Jackson VA, 22842	Collector:	DR	03/09/15 08:56
Project Manager: Mark Inboden	Number of Containers:	1	

Terms & Conditions

Services provided by Fairway Laboratories Inc. are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Fairway Laboratories Inc. ("Fairway," "us" or "we") will initiate a chain-of-custody/request for analysis upon sample receipt unless the client includes a completed form with the received sample(s). Upon request, Fairway will provide chain-of-custody forms for use.

CONFIDENTIALITY Fairway maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

CONTRACTS All contracts are subject to review and approval by Fairway's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based on the invoice date. A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Fairway reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting responsibility for payment.

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Fairway are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Fairway shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Fairway. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact information, and trail of custody.

SUBCONTRACTING Some analyses may require subcontracting to another laboratory. Unless the client indicates otherwise, this decision will be made by Fairway. Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Fairway routinely provides faxed or verbal results within 10 working days of receipt of sample(s) and a hard copy of the data results is routinely received via US Postal Service within 15 working days. At the request of the client, Fairway may offer expedited return of sample results. Surcharges may apply to rush requests. All rush requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Fairway for 5 years, after which, they will be destroyed.

SAMPLE DISPOSAL Fairway will maintain samples for four (4) weeks after the sample receipt date. Fairway will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Fairway reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their request.

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Fairway Laboratories, Inc. shall be invoiced by Fairway and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

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5B18015 1 of 2 #1

CHAIN OF CUSTODY

INBODEN ENVIRONMENTAL SERVICES, INC.
5790 MAIN STREET
MT. JACKSON, VA 22842
PHONE: (540) 477-3300 FAX: (540) 477-3360

Client:	Inboden Environmental Services, Inc.			Contact Person:	Mark Inboden
Address:	5790 Main Street			Submit Report to:	IES
City:	Mt. Jackson	State: VA	Zip: 22842	Submit Bill to:	IES
Project ID	CCSA	Phone: 540-477-3300	Fax: 540-477-3360	P.O. Number:	Cust #:

SAMPLE REPORTING INFORMATION - CHECK ALL THAT APPLY

COMPLIANCE		MATRIX		TURNAROUND TIME
VPDES/DMR/NO_X_	Noncompliance	Wastewater	Drinking Water	NORMAL
PWSID:	OTHER:	SOLID WASTE	OTHER:	RUSH - SPECIFY DUE DATE:
				NOTE: ADDITIONAL CHARGES APPLY FOR ALL REQUESTED RUSH ANALYSIS.

SAMPLE INFORMATION / **ANALYSIS REQUESTED**

LOCATION	SAMPLER INITIALS	SAMPLE DATE	SAMPLE TIME	SAMPLE *TYPE	SAMPLE CONTAINER (G or P)	PARAMETER	PRESERVATIVE (see below key)	Cooler #
Dry Sludge	DR ~~AN~~	2/10/2015	10:37 AM	G	1L-P	% Solids, TCLP (List Attached)	None	Packed SV
								Packed ___
								Packed ___
								Packed ___
								Packed ___
								Packed ___
								Packed ___
								Packed ___
								Packed ___
								Packed ___

COMMENTS: * DESIGNATE EITHER GRAB OR COMPOSITE

METHOD OF PRESERVATION KEY:

(1) COOL, 4°C	(3) HNO_3	(5) HCL	(7) $Na_2S_2O_3$	(9) Ascorbic Acid
(2) H_2SO_4	(4) NaOH	(6) Na_2SO_3	(8) None	(10) Zinc Acetate

Relinquished	Date	Time	Means of Delivery	Received	DATE	TIME
[signature]	2/17/2015	4:00	UPS TO FAIRWAY LABS			
			1Z89V33803 99091700	[signature]	2/18/15	9:30

1.6

SOP FLI0601-002 Revision 18 Date: August 11, 2014 Page of #2

Chain of Custody Receiving Document

Page 2 of 2

Receiver: MC

Date/Time of this check: 2/18/15 9:35 Client: Jacobs Lab # 5B18015

Received on ICE? Y ☐ * **Sample Temperature when delivered to the Lab:** 1.6 **Acceptable?** Y ☐ * **or In cool down process?** ☐ *

Custody Seals? N Intact? N/A

COC/Labels on bottles agree? Y ☐* Correct containers for all the analysis requested? Y ☐ * Matrix: Solid

COC #	Number and Type of BOTTLES										Comments
	Poly Non-Pres.	Poly H2SO4	Poly HNO3	Amber H2SO4	Amber Non-Pres.	Poly NaOH	VOCS (Head space?)	Other ☐ *	Properly Preserved ☐ *	Bacti	
Dry Sludge								1	N/A		

*** DEVIATION PRESENT:**
- ⊗ **No Ice** ( )
- ⊗ **Not at Proper Temperature** ( )
- ⊗ **Wrong Container** ( )
- ⊗ **Missing Information:** ( )

CLIENT CALLED:
YES ( )
By Whom:
_____ **Date:** _____

CLIENT RESPONSE:
- **Proceed with analysis; qualify data** ( )
- **Will Resample** ( )
- **Provided Information** ( )
- **No Response; Proceed and qualified** ( )

Client Contact: _____ **Date:** _____

* Comments: _____

This is a date sensitive document and may not be current after February 16, 2015.

Jeffries, Dawn (DEQ)

From: Art Nair [anair@4ies.com]
Sent: Monday, June 15, 2015 10:22 AM
To: Jeffries, Dawn (DEQ)
Subject: RE: Boyce STP Chlorides
Attachments: 06-15-2015.pdf

Dawn,

CCSA Effluent Chlorides:

5/6 – 278 mg/L
5/13 – 230 mg/L
5/18 – 304 mg/L
5/21 – 186 mg/L
5/28 – 246 mg/L

We have more samples, 5/28 and 6/2, not yet analyzed. However those above should be enough.

Sorry for the delay.

---Art

From: Jeffries, Dawn (DEQ) [mailto:Dawn.Jeffries@deq.virginia.gov]
Sent: Monday, June 15, 2015 9:09 AM
To: 'Art Nair'
Subject: FW: Boyce STP Chlorides

Hi Art,

Do we have anything on this?
I really need to get this permit moving again today or tomorrow as I have to be out of the office for a week.

Thanks,
Dawn

From: Jeffries, Dawn (DEQ)
Sent: Friday, May 15, 2015 1:37 PM
To: 'Art Nair'
Subject: RE: Boyce STP Chlorides

That would be perfect.
At least 10 is the best. More than that is fine.

Thanks Art,
Dawn

From: Art Nair [mailto:anair@4ies.com]
Sent: Friday, May 15, 2015 11:11 AM
To: Jeffries, Dawn (DEQ)
Cc: 'Mike Legge'; 'airdale'
Subject: RE: Boyce STP Chlorides

Dawn,

We are continuing to sample weekly. The lab has received but not analyzed samples from 5/6 and 5/13. That would total 8 results for 2015 including the ones I have given you. We can step up the chloride sampling to twice per week so in another two weeks we can have N=12.

Would that work?

---Art

From: Jeffries, Dawn (DEQ) [mailto:Dawn.Jeffries@deq.virginia.gov]
Sent: Friday, May 15, 2015 10:11 AM
To: 'Art Nair'
Subject: RE: Boyce STP Chlorides

Art,

Thank you for the additional information. It does appear from the results of the recent six samples that the effluent chloride values have become lower and much more consistent.
Do you know if they are continuing to sample for chloride? As this chloride evaluation is a close call and changes have occurred, a few more data points would be very helpful if they are available.
That is because our statistical program uses a pretty conservative default C.V. unless we get 10 data points, at which time it uses a calculated C.V.

I can proceed with the information you sent, or I can wait if more is coming. Just let me know.

Best regards,
Dawn

Dawn Jeffries
VA Dept. of Environmental Quality
Valley Regional Office
P.O. Box 3000
Harrisonburg, Virginia 22801
540-574-7898
dawn.jeffries@deq.virginia.gov

From: Art Nair [mailto:anair@4ies.com]
Sent: Thursday, May 14, 2015 2:40 PM
To: Jeffries, Dawn (DEQ)
Cc: 'Mike Legge'; 'airdale'
Subject: Boyce STP Chlorides

Ms. Jeffries,

Please find my comments attached.

Thank you,

---Art

Arthur W. Nair, PE
Engineer
Inboden Environmental Services, Inc.
5790 Main Street
Mt. Jackson, VA 22842

(800) 648-1010 (toll free)
(540) 477-3300 x206 (local calls)
(540) 477-3360 (fax)
anair@4ies.com
4ies.com

Inboden Environmental Services, Inc.
5790 Main Street, Mt. Jackson, VA 22842

Analytical Report Form

Customer: Clarke County Sanitation Authority
P.O. Box 327
25 E. Main ST. Boyce
Berryville, VA 22611
Contact: Ian Williams
Special Notes:

Report Date: 5/19/2015
Batch ID:
Received Date: 5/6/2015
Sampler: Ruggles, Dan
Sample Priority: Normal

Sample Location: Influent
Sample ID Number: 1505061710
Sample Type: Grab - Wastewater
Sample Date & Time: 5/6/2015 1:15 PM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Chloride	262	5	mg/L	*HACH 8225	5/14/2015	7:00	lm

Sample Location: Effluent
Sample ID Number: 1505061712
Sample Type: Grab - Wastewater
Sample Date & Time: 5/6/2015 1:19 PM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Chloride	278	5	mg/L	*HACH 8225	5/14/2015	7:00	lm

Sample Location: Lab Tap
Sample ID Number: 1505061713
Sample Type: Grab - Wastewater
Sample Date & Time: 5/6/2015 1:13 PM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Chloride	13	5	mg/L	*HACH 8225	5/14/2015	7:00	lm

Notes:

Analytes with an asterisk (*) present indicate NELAP accreditation. Analytes that have no asterisk(*) are not NELAP accredited.

IES Quantification Limit is the concentration of the lowest calibration standard above zero with a reliable signal.

SM represents "Standard Methods for the Examination of Water and Wastewater", 22nd Edition, 2012.

Reviewed and approved for Inboden Environmental Services, Inc.

By: _____ Date: MAY 21 2015
Mark E. Inboden, Laboratory Director

540-477-3300 • 1-800-648-1010 • Fax 540-477-3360
email: frontdesk@4ies.com
NELAP Accredited DCLS VA Laboratory ID# 460024

Inboden Environmental Services, Inc.

IES

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Inboden Environmental Services, Inc.
5790 Main Street, Mt. Jackson, VA 22842
tel: (540)477-3300 fax: (540)477-3360 toll free:1-800-468-1010
Email: frontdesk@ies.com
A NELAP Accredited Laboratory: VELAP Laboratory ID# 460024

Page ___ of ___

PLEASE USE PRINT TO FILL OUT THIS FORM. CORRECTION TAPE, PAINT, OR INK IS PROHIBITED. PLEASE USE BLUE OR BLACK INK.

Client Name: Clarke County Sanitation Authority
Address: 129 Ramsburg Lane, Berryville, VA 22611
Contact: Mike Legge
Phone#: 540 955-5185
Fax#: 540 955-0456
Email: mlegge@clarkecounty.gov
Project Name: Boyce STP
Quote/PO#:

COMPLIANCE TYPE
VPDES/DMR/VPA ☐
PWSID: ☐
NON-COMPLIANCE ☒
OTHER: ☐

MATRIX
Wastewater ☒ Drinking Water ☒
Solid Waste ☐ Other: ☐

Turn Around Time (TAT):
Normal ■ Rush ☐
Rush TAT subject to pre-approval and surcharge
Date Required: __/__/__

METHOD OF PRESERVATION KEY:
(1) Cool, <6° (5) HCL (9) Ascorbic Acid
(2) H_2SO_4 (6) Na_2SO_3 (10) Filter
(3) HNO_3 (7) $Na_2S_2O_3$
(4) NaOH (8) None Other: NONE

LAB USE ONLY
Received on ice? (Y) / N
Correct bottles used? (Y) / N
COC/Labels on bottles agree? (Y) N
Correct Preservation on all preserved bottles (Y) N
Cl_2 Check for Ammonia? Y / N -or- (N/A)
Total number of bottles: 3
Temp Instr. ID# N.b 85500 H

SAMPLE INFORMATION

ANALYSIS REQUESTED

SAMPLE LOCATION	Composite Start Date	Composite Start Time	Composite End or Grab Date	Composite End or Grab Time	Samplers Initials	Sample Type* G -or- C	Bottle Type** G -or- P	PARAMETER	Preservative (See Key Above)	Receipt Temp.	Bottle Properly Preserved?
Influent			5/6/15	13:15	DW		P	1505061700 Chloride	1	7.2	
Effluent			5/6/15	13:19	DW	G		1505061712		5.3	
Lab Tap			5/6/15	13:13	DW	G		1505061713		7.1	

	Date	Time		Date	Time
Sampled by:	5/6/15	1600	Received by:	5-6-15	1530
Relinquished by:	5-6-15	1650	Received by:	5/6/15	16:50
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

COMMENTS

* G=Grab; C=Composite
**G=Glass; P=Plastic

Inboden Environmental Services, Inc.
5790 Main Street, Mt. Jackson, VA 22842

Analytical Report Form

Customer:	Clarke County Sanitation Authority P.O. Box 327 25 E. Main ST. Boyce Berryville, VA 22611	**Report Date:**	5/22/2015
		Batch ID:	
		Received Date:	5/13/2015
Contact:	Ian Williams	**Sampler:**	Ruggles, Dan
Special Notes:		**Sample Priority:**	Normal

Sample Location: Influent — **Sample Type:** Grab - Wastewater
Sample ID Number: 1505131544 — **Sample Date & Time:** 5/13/2015 12:10 PM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Chloride	739	5	mg/L	*HACH 8225	5/14/2015	7:00	lm

Sample Location: Lab Sink — **Sample Type:** Grab - Wastewater
Sample ID Number: 150513154B — **Sample Date & Time:** 5/13/2015 12:05 PM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Chloride	14	5	mg/L	*HACH 8225	5/14/2015	7:00	lm

Sample Location: Effluent — **Sample Type:** Grab - Wastewater
Sample ID Number: 150513154C — **Sample Date & Time:** 5/13/2015 12:08 PM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Chloride	230	5	mg/L	*HACH 8225	5/14/2015	7:00	lm

Notes:

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IES Quantification Limit is the concentration of the lowest calibration standard above zero with a reliable signal.

SM represents "Standard Methods for the Examination of Water and Wastewater", 22nd Edition, 2012.

Reviewed and approved for Inboden Environmental Services, Inc.

By: _____ Date: MAY 22 2015

Mark E. Inboden, Laboratory Director

540-477-3300 • 1-800-648-1010 • Fax 540-477-3360
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NELAP Accredited DCLS VA Laboratory ID# 460024

Inboden Environmental Services, Inc.

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

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Email: frontdesk@ies.com

A NELAP Accredited Laboratory: VELAP Laboratory ID# 460024

Page ___ of ___

PLEASE USE PRINT TO FILL OUT THIS FORM. CORRECTION TAPE, PAINT, OR INK IS PROHIBITED. PLEASE USE BLUE OR BLACK INK.

Client Name: Clarke County Sanitation Authority
Address: 129 Ramsburg Lane, Berryville, VA 22611
Contact: Mike Legge
Phone#: 540 955-5185
Fax#: 540 955-0456
Email: mlegge@clarkecounty.gov
Project Name: Boyce STP
Quote/PO#:

COMPLIANCE TYPE
VPDES/DMR/VPA ☐
PWSID: ☐
NON-COMPLIANCE ☒
OTHER: ☐

MATRIX
Wastewater ☐ Drinking Water ☐
Solid Waste ☐ Other: ☐

Turn Around Time (TAT):
Normal ■ Rush ☐
Rush TAT subject to pre-approval and surcharge
Date Required: ___/___/___

METHOD OF PRESERVATION KEY:
(1) Cool, <6° (5) HCL (9) Ascorbic Acid
(2) H_2SO_4 (6) Na_2SO_3 (10) Filter
(3) HNO_3 (7) $Na_2S_2O_3$
(4) NaOH (8) None Other: NONE

LAB USE ONLY
Received on ice? Y / N
Correct bottles used? Y / N
COC/Labels on bottles agree? Y / N
Correct Preservation on all preserved bottles? Y / N
Cl_2 Check for Ammonia? Y / N -or- N/A
Total number of bottles: 3
Temp Instr. ID# NUG8500H

SAMPLE INFORMATION

SAMPLE LOCATION	Composite Start Date	Composite Start Time	Composite End or Grab Date	Composite End or Grab Time	Samplers Initials	Sample Type* G -or- C	Bottle Type** G -or- P
Influent	5/13/15	12:10	5/13/15		DM	G	P
Lab Sink	5/13/15	12:05	5/13/15		DM	G	P
Effluent	5/13/15	12:03	5/13/15		DM	G	P

ANALYSIS REQUESTED

PARAMETER	Preservative (See Key Above)	Receipt Temp.	Bottle Properly Preserved?
Chloride	1	5.0	✓
Chloride	1	5.0	✓
Chloride	1	5.2	✓

	Date	Time		Date	Time
Sampled by: D Royster	5/13/15	12:10	Received by:	5/13/15	1430
Relinquished by:	Date	Time	Received by:	5/13/15	3:40
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

COMMENTS
1505131540
1505131543
1505131540

* G=Grab; C=Composite
**G=Glass; P=Plastic

Inboden Environmental Services, Inc.
IES
Inboden Environmental Services, Inc.
5790 Main Street, Mt. Jackson, VA 22842

Analytical Report Form

Customer: Clarke County Sanitation Authority
P.O. Box 327
25 E. Main ST. Boyce
Contact: Ian Williams
Special Notes:

Report Date: 6/3/2015
Batch ID:
Received Date: 5/20/2015
Sampler: Ruggles, Dan
Sample Priority: Normal

Sample Location: Final
Sample ID Number: 1505201623

Sample Type: Grab - Wastewater
Sample Date & Time: 5/18/2015 10:10 AM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Chloride	304	5	mg/L	*HACH 8225	5/27/2015	8:00	lm

Notes:

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SM represents "Standard Methods for the Examination of Water and Wastewater", 22nd Edition, 2012.

Reviewed and approved for Inboden Environmental Services, Inc.

By: _____ Date: JUN 0 5 2015
Mark E. Inboden, Laboratory Director

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Inboden Environmental Services, Inc.

IES

CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

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Page ___ of ___

PLEASE USE PRINT TO FILL OUT THIS FORM. CORRECTION TAPE, PAINT, OR INK IS PROHIBITED. PLEASE USE BLUE OR BLACK INK.

Client Name: Clarke County Sanitation Authority

Address: 129 Ramsburg Lane, Berryville, VA 22611

Contact: Mike Legge

Phone#: 540 955-5185

Fax#: 540 955-0456

Email: mlegge@clarkecounty.gov

Project Name: Boyce STP

Quote/PO#:

COMPLIANCE TYPE

VPDES/DMR/VPA ☑

PWSID:_____ ☐

NON-COMPLIANCE ☐

OTHER:_____ ☐

MATRIX

Wastewater ☑ Drinking Water ☐

Solid Waste ☐ Other:_____ ☐

Turn Around Time (TAT):

Normal ■ Rush ☐

Rush TAT subject to pre-approval and surcharge

Date Required: ___/___/___

METHOD OF PRESERVATION KEY:

(1) Cool, <6° (5) HCL (9) Ascorbic Acid

(2) H_2SO_4 (6) Na_2SO_3 (10) Filter

(3) HNO_3 (7) $Na_2S_2O_3$

(4) NaOH (8) None Other: NONE

LAB USE ONLY

Received on ice? Y / N

Correct bottles used? Y / N

COC/Labels on bottles agree? Y / N

Correct Preservation on all preserved bottles? Y / N

Cl_2 Check for Ammonia? Y / N -or- N/A

Total number of bottles: 1

Temp Instr. ID# IR-85001H

SAMPLE INFORMATION

ANALYSIS REQUESTED

SAMPLE LOCATION	Composite Start Date	Composite Start Time	Composite End or Grab Date	Composite End or Grab Time	Samplers Initials	Sample Type* G -or- C	Bottle Type** G -or- P	PARAMETER	Preservative (See Key Above)	Receipt Temp.	Bottle Properly Preserved?
Final			5/18/15	10:10	Q	G	P P	Chloride	1	2.5	✓

Sampled by: Q	Date 5/13/15	Time 10:10	Received by: Cam	Date 5/20/15	Time 1500	COMMENTS	
Relinquished by: Cam	Date 5/20/15	Time 16:30	Received by:	Date 5/21/15	Time 1020	1505201623	
Relinquished by:	Date	Time	Received by:	Date	Time		
Relinquished by:	Date	Time	Received by:	Date	Time		

* G=Grab; C=Composite

**G=Glass; P=Plastic

Inboden Environmental Services, Inc.
5790 Main Street, Mt. Jackson, VA 22842

Analytical Report Form

Customer: Clarke County Sanitation Authority
P.O. Box 327
25 E. Main ST. Boyce
Berryville, VA 22611
Contact: Ian Williams
Special Notes:

Report Date: 6/3/2015
Batch ID:
Received Date: 5/21/2015
Sampler: Ruggles, Dan
Sample Priority: Normal

Sample Location: Final
Sample ID Number: 1505211602
Sample Type: Composite - Wastewater
Sample Date & Time: 5/21/2015 9:00 AM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Chloride	186	5	mg/L	*HACH 8225	5/27/2015	8:00	lm

Notes:

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IES Quantification Limit is the concentration of the lowest calibration standard above zero with a reliable signal.

Chain-of-Custody indicates complete composite sample collection time frame.

SM represents "Standard Methods for the Examination of Water and Wastewater", 22nd Edition, 2012.

Reviewed and approved for Inboden Environmental Services, Inc.

By: _____ Date: JUN 0 5 2015
Mark E. Inboden, Laboratory Director

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email: frontdesk@4ies.com
NELAP Accredited DCLS VA Laboratory ID# 460024

Inboden Environmental Services, Inc.

IES

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Email: frontdesk@ies.com
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Page ___ of ___

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Client Name: Clarke County Sanitation Authority

Address: 129 Ramsburg Lane, Berryville, VA 22611

Contact: Mike Legge

Phone#: 540 955-5185

Fax#: 540 955-0456

Email: mlegge@clarkecounty.gov

Project Name: Boyce STP

Quote/PO#:

COMPLIANCE TYPE

VPDES/DMR/VPA ☐

PWSID: ☐

NON-COMPLIANCE ☐

OTHER: X ☐

MATRIX

Wastewater ☑ Drinking Water ☐

Solid Waste ☐ Other: ☐

Turn Around Time (TAT):

Normal ■ Rush ☐

Rush TAT subject to pre-approval and surcharge

Date Required: ___/___/___

METHOD OF PRESERVATION KEY:

(1) Cool, <6° (5) HCL (9) Ascorbic Acid

(2) H_2SO_4 (6) Na_2SO_3 (10) Filter

(3) HNO_3 (7) $Na_2S_2O_3$

(4) NaOH (8) None Other: NONE

LAB USE ONLY

Received on ice? Y / N

Correct bottles used? Y / N

COC/Labels on bottles agree? Y / N

Correct Preservation on all preserved bottles? Y / N

Cl_2 Check for Ammonia? Y / N -or- N/A

Total number of bottles: 1

Temp Instr. ID# IR-69500H

SAMPLE INFORMATION

ANALYSIS REQUESTED

SAMPLE LOCATION	Composite Start Date	Composite Start Time	Composite End or Grab Date	Composite End or Grab Time	Samplers Initials	Sample Type* G -or- C	Bottle Type** G -or- P	PARAMETER	Preservative (See Key Above)	Receipt Temp.	Bottle Properly Preserved?
Final	5/20/15	1:30	5/21/15	9:30	JI	C	P	Chloride	1	4.8	Y

	Date	Time		Date	Time
Sampled by:	5/21/15		Received by:	5/21/15	1435
Relinquished by:	5/21/15	1530	Received by:	5/21/15	1530
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

COMMENTS

1505211602

* G=Grab; C=Composite

**G=Glass; P=Plastic

Inboden Environmental Services, Inc.
5790 Main Street, Mt. Jackson, VA 22842

Analytical Report Form

Customer:	Clarke County Sanitation Authority P.O. Box 327 25 E. Main ST. Boyce Berryville, VA 22611	**Report Date:**	6/8/2015
		Batch ID:	
		Received Date:	5/28/2015
Contact:	Ian Williams	**Sampler:**	Ruggles, Dan
Special Notes:		**Sample Priority:**	Normal

Sample Location: Final
Sample ID Number: 1505281559
Sample Type: Composite - Wastewater
Sample Date & Time: 5/28/2015 9:00 AM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Ammonia as N	< 0.2	0.2	mg/L	*SM 4500-NH3 D-2011	6/5/2015	11:00	lm
CBOD5	< 2	2	mg/L	*SM 5210 B-2011	5/29/2015	8:00	cc
Nitrate as N	2.1	1.0	mg/L	*SM 4500-NO3 D-2011	5/29/2015	6:00	lm
Nitrite as N	0.040	0.007	mg/L	*HACH 8507	5/29/2015	6:00	lm
Total Kjeldahl Nitrogen	0.6	0.5	mg/L	*ASTM D3590-02 (A)	6/3/2015	7:30	lm
Total Phosphorus	0.18	0.07	mg/L	*HACH 8190	6/3/2015	7:30	lm

Sample Location: Final
Sample ID Number: 1505281601
Sample Type: Grab - Wastewater
Sample Date & Time: 5/28/2015 12:41 PM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
E.coli	< 1.0	1	N/CML	*Colilert-18	5/28/2015	17:00	cc

Sample Location: Final
Sample ID Number: 1505281602
Sample Type: Grab - Wastewater
Sample Date & Time: 5/28/2015 12:05 PM

Parameter	Result	IES QL	Units	Method	Analysis Date	Analysis Time	Analyst
Chloride	246	5	mg/L	*HACH 8225	6/2/2015	8:00	lm

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email: frontdesk@4ies.com
NELAP Accredited DCLS VA Laboratory ID# 460024

Inboden Environmental Services, Inc.
5790 Main Street, Mt. Jackson, VA 22842

Analytical Report Form

Customer:	Clarke County Sanitation Authority P.O. Box 327 25 E. Main ST. Boyce Berryville, VA 22611	**Report Date:**	6/8/2015
		Batch ID:	
		Received Date:	5/28/2015
Contact:	Ian Williams	**Sampler:**	Ruggles, Dan
Special Notes:		**Sample Priority:**	Normal

Notes:

Analytes with an asterisk (*) present indicate NELAP accreditation. Analytes that have no asterisk(*) are not NELAP accredited.

IES Quantification Limit is the concentration of the lowest calibration standard above zero with a reliable signal.

Chain-of-Custody indicates complete composite sample collection time frame.

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Reviewed and approved for Inboden Environmental Services, Inc.

By: _____ Date: JUN 0 8 2015

Mark E. Inboden, Laboratory Director

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Inboden Environmental Services, Inc.

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Email: frontdesk@4ies.com

A NELAP Accredited Laboratory: VELAP Laboratory ID# 460024

PLEASE USE PRINT TO FILL OUT THIS FORM. CORRECTION TAPE, PAINT, OR INK IS PROHIBITED. PLEASE USE BLUE OR BLACK INK.

Client Name: CCSA WWTP
Address:
Contact:
Phone#:
Fax#:
Email:
Project Name:
Quote/PO#:

COMPLIANCE TYPE
VPDES/DMR/VPA [x]
PWSID: ____ [ ]
NON-COMPLIANCE [ ]
OTHER: ____ [ ]

MATRIX
Wastewater [x] Drinking Water [ ]
Solid Waste [ ] Other: ____ [ ]

Turn Around Time (TAT):
Normal [x] Rush [ ]
Rush TAT subject to pre-approval and surcharge
Date Required: __/__/__

METHOD OF PRESERVATION KEY:
(1) Cool, <6°C (5) HCL (9) Ascorbic Acid
(2) H_2SO_4 (6) Na_2SO_3 (10) Filter
(3) HNO_3 (7) $Na_2S_2O_3$
(4) NaOH (8) None Other:

LAB USE ONLY
Received on ice? Y / N
Correct bottles used? Y / N
COC/Labels on bottles agree? Y / N
Correct Preservation on all preserved bottles? Y / N
Cl_2 Check for Ammonia? Y / N -or- N/A Lab
Total number of bottles: 6
Temp Instr. ID# NL68701L

SAMPLE INFORMATION / ANALYSIS REQUESTED

SAMPLE LOCATION	Composite Start Date	Composite Start Time	Composite End or Grab Date	Composite End or Grab Time	Samplers Initials	Sample Type* (G -or- C)	Bottle Type** (G -or- P)	PARAMETER	Preservative (See Key Above)	Receipt Temp.	Bottle Properly Preserved?
FINAL	5/27/15	1100	5/28/15	11:00	DR	C	P	CBOD 1505281559		5.3	
FINAL								AMMONIA		3.4	
FINAL								NITRATE/NITRITE	1	3.3	
FINAL								TKN & TOT. P		3.3	
FINAL			5/28/15	12:41		G		ECOLI 1505281601		6.4	
Final			5/28/15	12:05	DR	G	P	Chloride – non compliance		6.7	
								1505281602			

	Date	Time		Date	Time
Sampled by: Dan Ruggles	5/28/15	Time: Above	Received by: S. L. Will	5-28-15	1500
Relinquished by: S. L. Will	5-28-15	1557	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		

COMMENTS

* G=Grab; C=Composite
**G=Glass; P=Plastic

Jeffries, Dawn (DEQ)

From: Art Nair [anair@4ies.com]
Sent: Friday, May 15, 2015 11:11 AM
To: Jeffries, Dawn (DEQ)
Cc: 'Mike Legge'; 'airdale'
Subject: RE: Boyce STP Chlorides

Dawn,

We are continuing to sample weekly. The lab has received but not analyzed samples from 5/6 and 5/13. That would total 8 results for 2015 including the ones I have given you. We can step up the chloride sampling to twice per week so in another two weeks we can have N=12.

Would that work?

---Art

From: Jeffries, Dawn (DEQ) [mailto:Dawn.Jeffries@deq.virginia.gov]
Sent: Friday, May 15, 2015 10:11 AM
To: 'Art Nair'
Subject: RE: Boyce STP Chlorides

Art,

Thank you for the additional information. It does appear from the results of the recent six samples that the effluent chloride values have become lower and much more consistent.
Do you know if they are continuing to sample for chloride? As this chloride evaluation is a close call and changes have occurred, a few more data points would be very helpful if they are available.
That is because our statistical program uses a pretty conservative default C.V. unless we get 10 data points, at which time it uses a calculated C.V.

I can proceed with the information you sent, or I can wait if more is coming. Just let me know.

Best regards,
Dawn

Dawn Jeffries
VA Dept. of Environmental Quality
Valley Regional Office
P.O. Box 3000
Harrisonburg, Virginia 22801
540-574-7898
dawn.jeffries@deq.virginia.gov

From: Art Nair [mailto:anair@4ies.com]
Sent: Thursday, May 14, 2015 2:40 PM

To: Jeffries, Dawn (DEQ)
Cc: 'Mike Legge'; 'airdale'
Subject: Boyce STP Chlorides

Ms. Jeffries,

Please find my comments attached.

Thank you,

---Art

Arthur W. Nair, PE
Engineer
Inboden Environmental Services, Inc.
5790 Main Street
Mt. Jackson, VA 22842

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May 14, 2015

Ms. Dawn Jeffries
Commonwealth of Virginia
Department of Environmental Quality
P.O. Box 3000
Harrisonburg, VA 22801

Re: Chloride Limit
Clarke County Sanitary Authority Boyce STP
Permit Reissuance Application, Permit No. VA0085171

Dear Ms. Jeffries,

On behalf of CCSA, I had previously submitted effluent chloride data collected in 2013 as a characterization of effluent chloride. We have recently collected additional chloride data which is substantially different that the previous data submitted. I would like to explain the likely reasons for the differences and request that the more recent data be taken into consideration.

On June 18, 2010 a renovation of the Boyce STP was completed and a mandated one-year performance evaluation period began. The plant renovation included the conversion of the process to a Membrane Bio Reactor. General Electric furnished a proprietary and highly automated process which Clarke County Sanitary Authority put into operation. During the initial years of operation, the plant was operated close to the preset default settings provided in the initial design. During the initial year performance period, the operator closely consulted with the manufacturer and operated the plant according to their recommendations. The plant performance was certified at the end of the one year trial period.

In the first few years of operation the main objective of operating the plant was to optimize plant performance to assure that all the permit parameter were met. The plant has met all its annual nutrient limits through 2014. As time goes on, and especially during this past year, the CCSA is also determined to optimize the plant to limit operating cost. Major cost to the CCSA includes the cost of chemical additives, Micro-C and Ferric Chloride and the cost of electricity driving the aeration blowers.

Over the past 6 months, General Electric has reprogramed plant automatic controls to more finely control DO levels in the process. The finer control of DO helps to lower Micro-C costs and fine tunes the control of the anoxic and aerated processed through-out the plant. The finer control not only allows reduced aeration power, but optimizes the biological condition for nitrogen and phosphorus removal. This increase in biological control is starting to show benefits allowing the operator to reduce Micro-C and Ferric Chloride use. The optimization of these additives are on-going and are expected to show increasing benefits in the future as the biological process adapts to chemical feeds.

After submittal of the 1 in 5 year testing results after the treatment plant renovation, DEQ suggested that we monitor chloride to see if the single 1 in 5 year chloride result was a representative value of the

effluent chloride concentration. In 2013 we monitored the effluent chloride concentrations 17 times from January 1, 2013 to September 9, 2013. The effluent chloride sample results are shown in Table 1 and plotted in Chart 1. The average effluent chloride concentration for this period was 349 mg/L. This data has been previously submitted to DEQ.

After the chloride issue was raised again this year as the permit reissuance process got underway, we started monitoring influent, effluent and drinking water chloride as a check to see what the origin of the chloride is in the wastewater treatment process. The results of the 2015 chloride testing is shown in Table 1 and Chart 2. Chloride has been monitored from March 19, 2015 to April 29, 2015 and is continuing. The effluent chloride samples were taken from 8-hour effluent composites. The influent and drinking water samples are grab samples. The 2015 data shows that the final chloride averaged 259 mg/L over six samples.

The 2015 influent samples had an average of 288 mg/L. It should be noted that sludge fan press filtrate is discharged to the collection system and is pumped back to the head of the plant combined with the rest of the collection system's domestic influent. Chart 2 shows that except for the samples collected on April 7, influent and effluent chlorides were fairly close in value. We do not know why the April 7 chloride value of 476 mg/L would be so high, but we do realize it is a grab sample and the grab influent data should have more variability than the composited effluent samples. It may also be influenced from filtrate from the sludge fan press, however, we do not have the records to determine if the fan press was running as the April 7 samples were collected.

As a whole the 2015 effluent chloride shows a much lower variability than the 2013 data. It is our belief that as a whole, the Ferric Chloride feed has been lower and more consistent in 2015 than during previous years including 2013.

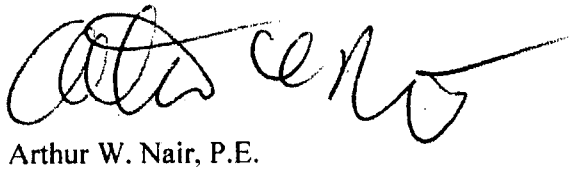
The 2015 data also indicates that influent and effluent chloride concentrations are similar. An unknown amount of chloride is in the sludge removed from the plant. It appears from the 2015 data that any chloride added in the treatment process may possibly be removed through sludge disposal. We do not have a complete chloride mass balance through the waste sludge process. A February 10, 2015 sample of the liquid sludge had a chloride content of 12,800 mg/kg. Most of this would be returned to the influent through the sludge fan filtrate. I would expect that there is a significant amount of chloride in the waste dried sludge. Assuming that the dried sludge is 80% liquid, there should be at least 10,000 mg/kg chloride in the dried sludge.

We request that you take the 2015 data in consideration when evaluating the need for chloride limits. The 2015 data show the plant as currently operated has less effluent chloride than the 2013 data suggested.

If you do find it necessary to issue a chloride limit, we will need time to evaluate the limit and possible process changes to comply with a new limit. It may be helpful if the new permit contains provisions for time to study the mass balance of chloride throughout the treatment plant, including liquid and solid waste phases. If the use of Ferric Chloride will need to be curtailed we will need time to field test and analyze alternative chemicals. A period of effluent testing without limits would be helpful for a transition to limits.

Thank you very much for this opportunity to comment.

Sincerely,



Arthur W. Nair, P.E.
Environmental Consultant
Inboden Environmental Services, Inc.

Enclosures: As stated
cc: Michael Legge

Table 1 -

Boyce STP Chloride Data

Date	Year	Influent Cl (mg/L)	Final Cl (mg/L)	Drinking Water Cl (mg/L)
3/19	2015	269	258	
3/31	2015	243	258	14
4/7	2015	476	251	11
4/15	2015	235	239	13
4/20	2015	288	280	13
4/29	2015	218	267	12
	Average 2015	288	259	13
1/8	2013		570	
1/17	2013		441	
2/13	2013		376	
2/21	2013		356	
2/28	2013		316	
3/7	2013		369	
9/14	2013		260	
4/18	2013		371	
5/9	2013		399	
5/21	2013		313	
6/3	2013		27	
6/4	2013		57	
7/1	2013		361	
7/11	2013		296	
8/1	2013		523	
8/14	2013		468	
9/10	2013		436	
		Average 2013	349	

CHART 1 - BOYCE STP 2013 AND 2015 EFFLUENT CHLORIDE (MG/L)

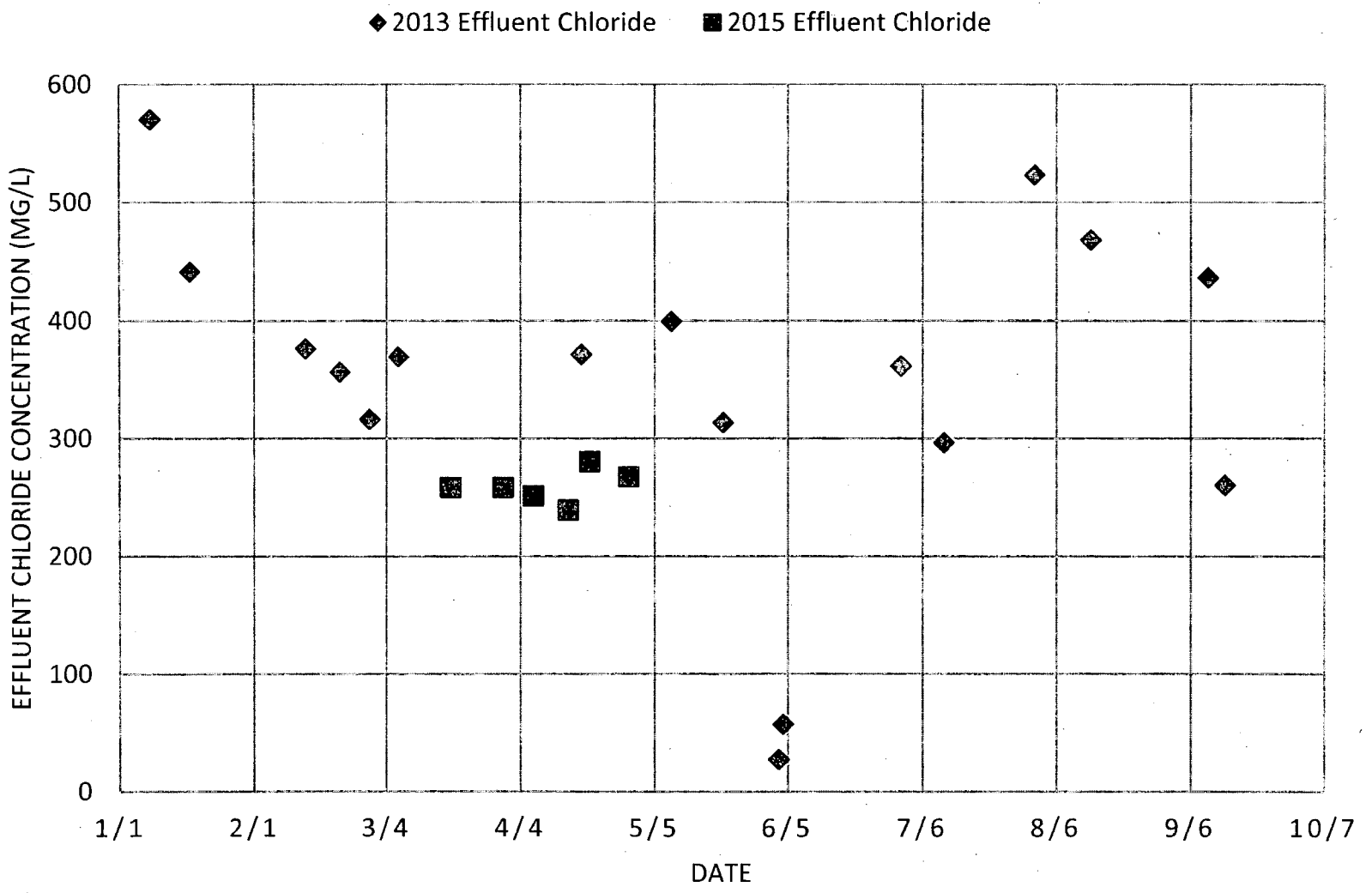
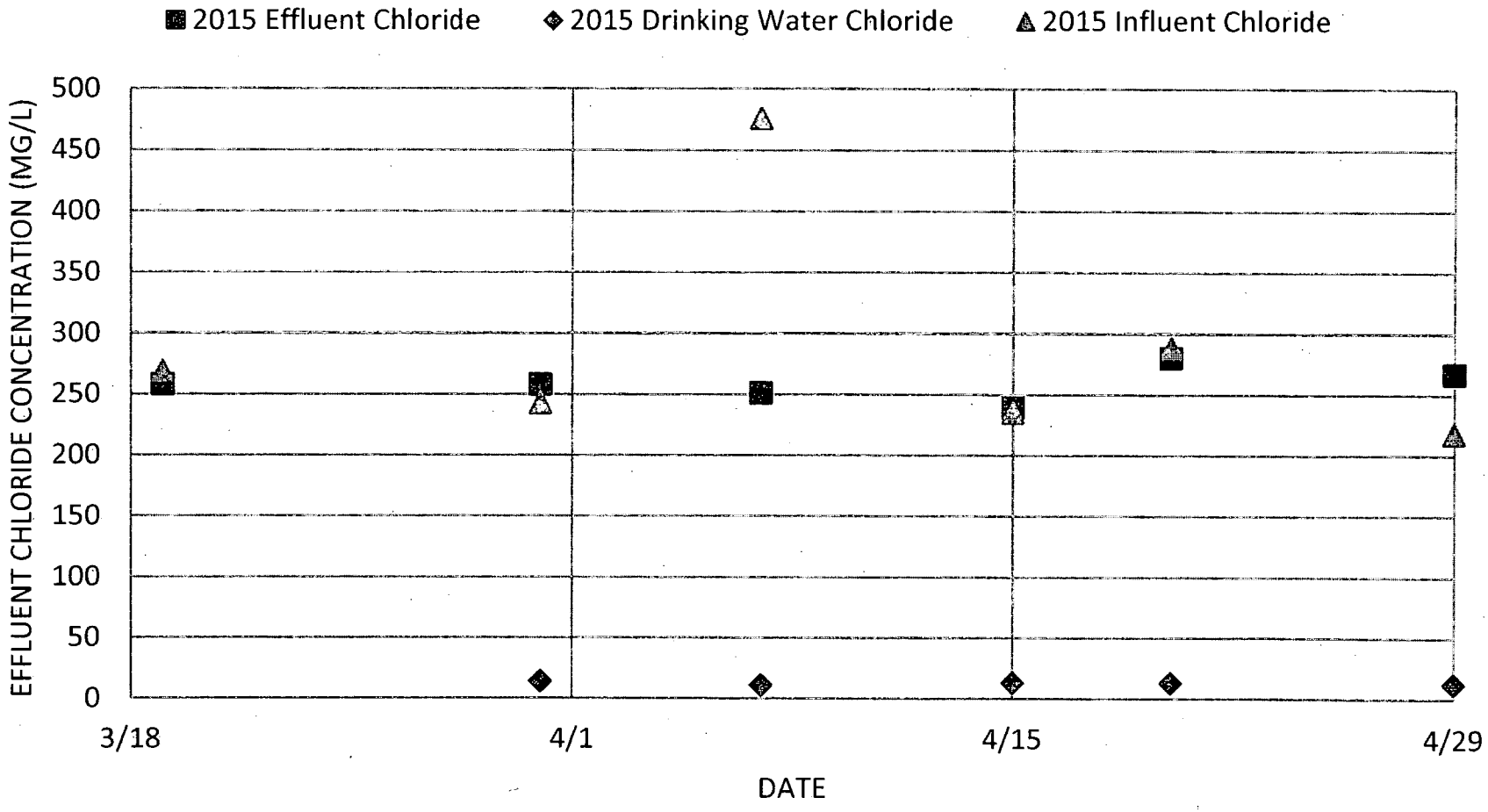


CHART 2 - BOYCE STP 2015 INFLUENT, EFFLUENT AND DRINKING WATER CHLORIDE (MG/L)



Sample Summary

13-Mar-15 9:15 am

1301081658

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final 001	**Collected:**	1/8/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	1/8/2013	**Time:**	16:48
Customer:	CCSA	**Started:**	1/8/2013	**Due:**	1/17/2013
Cust. Sample:		**Completed:**	1/21/2013	**Reported:**	1/21/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	< 0.2	mg/L	0.2	*SM 4500-	1/21/2013	8:00	mi
CBOD5	4	mg/L	2	*SM 5210	1/10/2013	8:00	mi
Chloride	570	mg/L	5	*HACH 822	1/14/2013	8:00	mi

1301171648

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final 001	**Collected:**	1/17/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	1/17/2013	**Time:**	16:41
Customer:	CCSA	**Started:**	1/17/2013	**Due:**	1/28/2013
Cust. Sample:		**Completed:**	1/31/2013	**Reported:**	1/31/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	< 0.2	mg/L	0.2	*SM 4500-	1/30/2013	14:15	mi
CBOD5	2	mg/L	2	*SM 5210	1/18/2013	11:30	naw
Chloride	441	mg/L	5	*HACH 822	1/28/2013	9:30	mi

1302131732

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final 001	**Collected:**	2/13/2013	**Time:**	13:10
Sample Type:	Composite - Wastewater	**Received:**	2/13/2013	**Time:**	17:00
Customer:	CCSA	**Started:**	2/13/2013	**Due:**	2/22/2013
Cust. Sample:		**Completed:**	2/27/2013	**Reported:**	2/27/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
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Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	0.5	mg/L	0.2	*SM 4500-	2/27/2013	10:30	naw
CBOD5	< 2	mg/L	2	*SM 5210	2/15/2013	9:30	mi

Sample Summary

13-Mar-15 9:15 am

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Chloride	376	mg/L	5	*HACH 822	2/27/2013	9:40	mi

1302131734

Project:	CCSA WWTP - Special	**Sampler:**	DR	**Batch:**	
Location:	Influent	**Collected:**	2/13/2013	**Time:**	13:21
Sample Type:	Grab - Wastewater	**Received:**	2/13/2013	**Time:**	17:00
Customer:	CCSA	**Started:**	2/13/2013	**Due:**	2/22/2013
Cust. Sample:		**Completed:**	2/27/2013	**Reported:**	2/27/2013
PO:		**Invoice:**		**Invoiced:**	

Description: INFORMAL
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Chloride	256	mg/L	5	*HACH 822	2/27/2013	9:40	mi

1302211654

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final 001	**Collected:**	2/21/2013	**Time:**	12:54
Sample Type:	Composite - Wastewater	**Received:**	2/21/2013	**Time:**	16:02
Customer:	CCSA	**Started:**	2/21/2013	**Due:**	3/4/2013
Cust. Sample:		**Completed:**	3/5/2013	**Reported:**	3/5/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
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Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	0.3	mg/L	0.2	*SM 4500-	3/1/2013	9:00	naw
Chloride	356	mg/L	5	*HACH 822	2/27/2013	9:40	mi

1303010930

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final 001	**Collected:**	2/28/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	2/28/2013	**Time:**	16:04
Customer:	CCSA	**Started:**	2/28/2013	**Due:**	3/11/2013
Cust. Sample:		**Completed:**	3/8/2013	**Reported:**	
PO:		**Invoice:**		**Invoiced:**	

Description:
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Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Chloride	316	mg/L	5	*HACH 822	3/8/2013	10:05	nwampler
Nitrate	1.4	mg/L	1	*SM 4500-	3/1/2013	10:30	nwampler

Sample Summary

13-Mar-15 9:15 am

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Nitrite	0.041	mg/L	0.007	*HACH 850	3/1/2013	10:35	nwampler
TKN - IES	0.7	mg/L	0.5	*ASTM D35	3/8/2013	9:00	naw
Total Phosphorus	0.07	mg/L	0.07	*HACH 819	3/4/2013	10:30	naw

1303071513

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final 001	**Collected:**	3/7/2013	**Time:**	13:00
Sample Type:	Composite - Wastewater	**Received:**	3/7/2013	**Time:**	15:10
Customer:	CCSA	**Started:**	3/7/2013	**Due:**	3/18/2013
Cust. Sample:		**Completed:**	3/19/2013	**Reported:**	3/19/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	0.4	mg/L	0.2	*SM 4500-	3/12/2013	12:30	sm
CBOD5	< 2	mg/L	2	*SM 5210	3/8/2013	10:00	mi
Chloride	369	mg/L	5	*HACH 822	3/8/2013	10:05	nwampler
TSS	< 1	mg/L	1	*SM 2540	3/13/2013	8:05	smitchem

1303141540

Project:	CCSA WWTP	**Sampler:**	DR	**Batch:**	
Location:	Final 001	**Collected:**	3/14/2013	**Time:**	9:22
Sample Type:	Grab - Wastewater	**Received:**	3/14/2013	**Time:**	15:00
Customer:	CCSA	**Started:**	3/14/2013	**Due:**	3/25/2013
Cust. Sample:		**Completed:**	3/22/2013	**Reported:**	3/25/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
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Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Chloride	260	mg/L	5	*HACH 822	3/22/2013	9:30	mi

1304021234

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final	**Collected:**	4/2/2013	**Time:**	4:00
Sample Type:	Composite - Wastewater	**Received:**	4/2/2013	**Time:**	8:45
Customer:	CCSA	**Started:**	4/2/2013	**Due:**	4/9/2013
Cust. Sample:		**Completed:**	4/9/2013	**Reported:**	4/9/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
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Conclusions:

Sample Summary

13-Mar-15 9:15 am

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
CBOD5	< 2	mg/L	2	*SM 5210	4/3/2013	16:30	naw
Chloride	290	mg/L	5	*HACH 822	4/4/2013	9:00	mi
TSS	< 1	mg/L	1	*SM 2540	4/8/2013	8:00	mi

1304181545

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final 001	**Collected:**	4/18/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	4/18/2013	**Time:**	15:40
Customer:	CCSA	**Started:**	4/18/2013	**Due:**	4/25/2013
Cust. Sample:		**Completed:**	4/30/2013	**Reported:**	4/30/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
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Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	< 0.2	mg/L	0.2	*SM 4500-	4/19/2013	8:00	mi
CBOD5	< 2	mg/L	2	*SM 5210	4/19/2013	16:00	naw
Chloride	371	mg/L	5	*HACH 822	4/26/2013	14:00	mi

1305091700

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Effluent	**Collected:**	5/9/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	5/9/2013	**Time:**	16:45
Customer:	CCSA	**Started:**	5/9/2013	**Due:**	5/17/2013
Cust. Sample:		**Completed:**	5/14/2013	**Reported:**	5/22/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Chloride	399	mg/L	5	*HACH 822	5/14/2013	13:50	nwampler

1305211549

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final	**Collected:**	5/21/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	5/21/2013	**Time:**	15:26
Customer:	CCSA	**Started:**	5/21/2013	**Due:**	5/30/2013
Cust. Sample:		**Completed:**	5/24/2013	**Reported:**	5/28/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
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Conclusions:

Sample Summary

13-Mar-15 9:15 am

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Chloride	313	mg/L	5	*HACH 822	5/24/2013	9:00	mi

1306031541

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Effluent	**Collected:**	6/3/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	6/3/2013	**Time:**	15:39
Customer:	CCSA	**Started:**	6/3/2013	**Due:**	6/12/2013
Cust. Sample:		**Completed:**	6/14/2013	**Reported:**	6/14/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	< 0.2	mg/L	0.2	*SM 4500-	6/4/2013	14:05	nwampler
CBOD5	2	mg/L	2	*SM 5210	6/5/2013	8:45	naw
Chloride	27	mg/L	5	*HACH 822	6/4/2013	13:15	jbf
TSS	< 1	mg/L	1	*SM 2540	6/7/2013	14:15	smitchem

1306121610

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Effluent	**Collected:**	6/12/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	6/12/2013	**Time:**	15:39
Customer:	CCSA	**Started:**	6/12/2013	**Due:**	6/21/2013
Cust. Sample:		**Completed:**	6/25/2013	**Reported:**	6/25/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	< 0.2	mg/L	0.2	*SM 4500-	6/13/2013	14:00	jf
CBOD5	< 2	mg/L	2	*SM 5210	6/13/2013	13:30	naw
Chloride	57	mg/L	5	*HACH 822	6/14/2013	14:00	jbf

1307011443

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Effluent	**Collected:**	7/1/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	7/1/2013	**Time:**	14:32
Customer:	CCSA	**Started:**	7/1/2013	**Due:**	7/9/2013
Cust. Sample:		**Completed:**	7/12/2013	**Reported:**	7/15/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Sample Summary

13-Mar-15 9:15 am

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	0.4	mg/L	0.2	*SM 4500-	7/5/2013	11:15	nwampler
CBOD5	< 2	mg/L	2	*SM 5210	7/3/2013	10:30	naw
Chloride	361	mg/L	5	*HACH 822	7/12/2013	14:30	nwampler
TSS	< 1	mg/L	1	*SM 2540	7/8/2013	9:00	smitchem

1307111649

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final 001	**Collected:**	7/11/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	7/11/2013	**Time:**	16:45
Customer:	CCSA	**Started:**	7/11/2013	**Due:**	7/22/2013
Cust. Sample:		**Completed:**	7/17/2013	**Reported:**	7/17/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Chloride	296	mg/L	5	*HACH 822	7/12/2013	14:30	nwampler
Nitrate	1.0	mg/L	1	*SM 4500-	7/12/2013	10:00	jbf
Nitrite	0.013	mg/L	0.007	*HACH 850	7/11/2013	15:00	jbf
TKN - IES	3.7	mg/L	0.5	*ASTM D35	7/15/2013	10:00	jf
Total Phosphorus	< 0.05	mg/L	0.07	*HACH 819	7/16/2013	13:30	jf

1308011540

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Effluent	**Collected:**	8/1/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	8/1/2013	**Time:**	15:20
Customer:	CCSA	**Started:**	8/1/2013	**Due:**	8/12/2013
Cust. Sample:		**Completed:**	8/8/2013	**Reported:**	8/8/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	< 0.2	mg/L	0.2	*SM 4500-	8/2/2013	8:30	jf
CBOD5	< 2	mg/L	2	*SM 5210	8/2/2013	5:30	naw
Chloride	523	mg/L	5	*HACH 822	8/6/2013	14:30	nwampler

1308141642

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Effluent	**Collected:**	8/14/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	8/14/2013	**Time:**	16:30
Customer:	CCSA	**Started:**	8/14/2013	**Due:**	8/21/2013
Cust. Sample:		**Completed:**	8/22/2013	**Reported:**	8/23/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Ammonia	0.1	mg/L	0.2	*SM 4500-	8/15/2013	9:00	nwampler
CBOD5	< 2	mg/L	2	*SM 5210	8/15/2013	10:00	jf
Chloride	468	mg/L	5	*HACH 822	8/20/2013	15:15	mi
TSS	< 1	mg/L	1	*SM 2540	8/20/2013	10:15	jf

1309101556

Project:	CCSA - Composite	**Sampler:**	DR	**Batch:**	
Location:	Final	**Collected:**	9/10/2013	**Time:**	12:00
Sample Type:	Composite - Wastewater	**Received:**	9/10/2013	**Time:**	14:05
Customer:	CCSA	**Started:**	9/10/2013	**Due:**	9/17/2013
Cust. Sample:		**Completed:**	9/13/2013	**Reported:**	9/26/2013
PO:		**Invoice:**		**Invoiced:**	

Description:
Notes:
Document:
Conclusions:

Analysis	Result	Units	MDL	Method	Date	Time	Tech/Lab
Chloride	436	mg/L	5	*HACH 822	9/13/2013	8:31	mi

Jeffries, Dawn (DEQ)

From: Art Nair [anair@4ies.com]
Sent: Friday, March 20, 2015 10:46 AM
To: Jeffries, Dawn (DEQ)
Subject: CCSA Chloride
Attachments: CCF03202015_0002.pdf

A plot of the data I sent you.

Point 4 is influent.

Points 13 and 14 are ridiculous. I am guessing that the lab did not figure in the dilution factor for the tests. They have to dilute the sample if it is over 100 mg/L.

---Art

Arthur W. Nair, PE
Engineer
Inboden Environmental Services, Inc.
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Mt. Jackson, VA 22842

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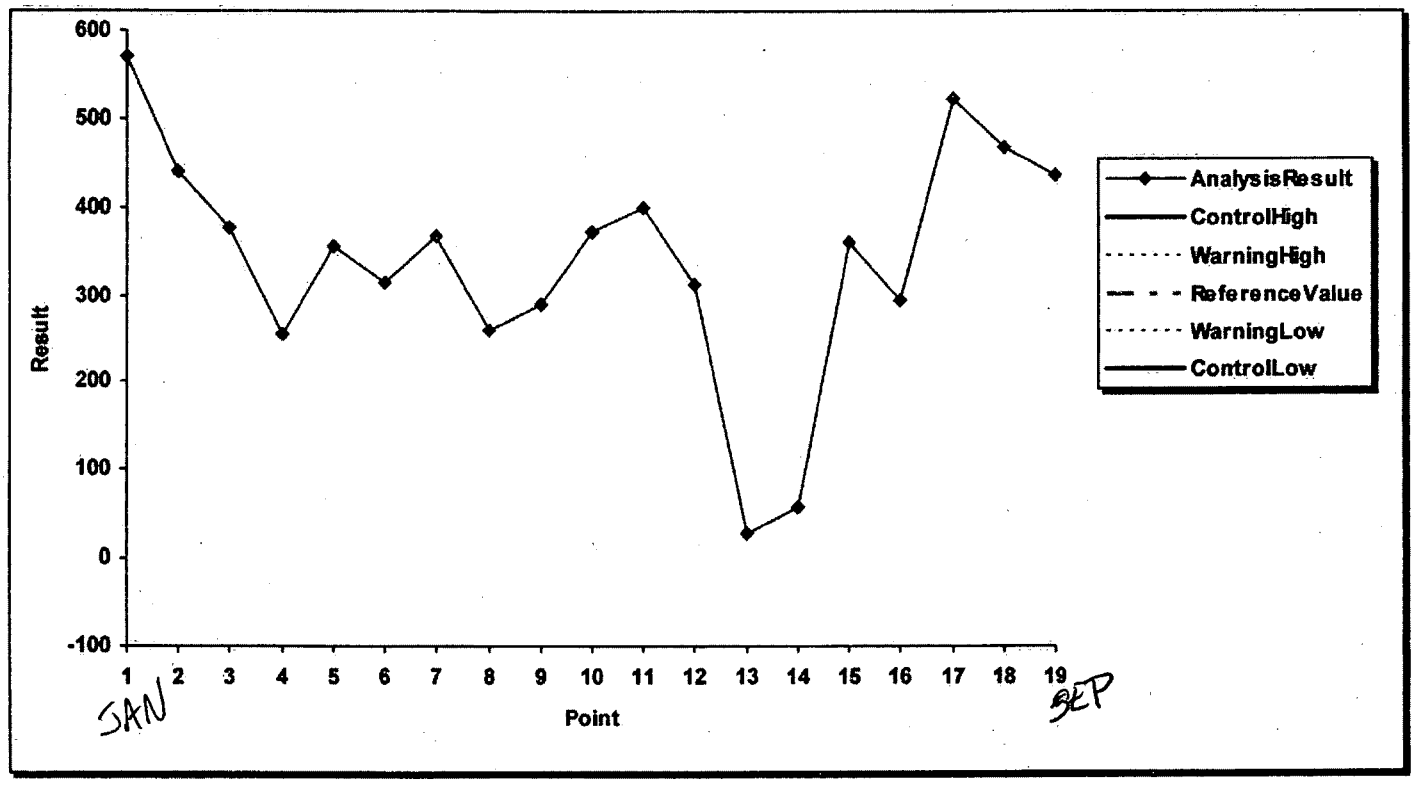
Control Chart

20-Mar-15 10:36 am

Chloride (mg/L)



Point	Result	Date	Sample ID	Collected	Project	Location	Sample Type	Sampler
1	570	1/14/2013	1301081658	1/8/2013	CCSA - Composite	Final 001	Composite - W	Ruggles, Dan
2	441	1/28/2013	1301171648	1/17/2013	CCSA - Composite	Final 001	Composite - W	Ruggles, Dan
3	376	2/27/2013	1302131732	2/13/2013	CCSA - Composite	Final 001	Composite - W	Ruggles, Dan
4	256	2/27/2013	1302131794	2/13/2013	CCSA WWTP - Special	Influent	Grab - Wastew	Ruggles, Dan
5	356	2/27/2013	1302211654	2/21/2013	CCSA - Composite	Final 001	Composite - W	Ruggles, Dan
6	316	3/8/2013	1303010930	2/28/2013	CCSA - Composite	Final 001	Composite - W	Ruggles, Dan
7	369	3/8/2013	1303071513	3/7/2013	CCSA - Composite	Final 001	Composite - W	Ruggles, Dan
8	260	3/22/2013	1303141540	3/14/2013	CCSA WWTP	Final 001	Grab - Wastew	Ruggles, Dan
9	290	4/4/2013	1304021234	4/2/2013	CCSA - Composite	Final	Composite - W	Ruggles, Dan
10	371	4/26/2013	1304181545	4/18/2013	CCSA - Composite	Final 001	Composite - W	Ruggles, Dan
11	399	5/14/2013	1305091700	5/9/2013	CCSA - Composite	Effluent	Composite - W	Ruggles, Dan
12	313	5/24/2013	1305211549	5/21/2013	CCSA - Composite	Final	Composite - W	Ruggles, Dan
13	27	6/4/2013	1306031541	6/3/2013	CCSA - Composite	Effluent	Composite - W	Ruggles, Dan
14	57	6/14/2013	1306121610	6/12/2013	CCSA - Composite	Effluent	Composite - W	Ruggles, Dan
15	361	7/12/2013	1307011443	7/1/2013	CCSA - Composite	Effluent	Composite - W	Ruggles, Dan
16	296	7/12/2013	1307111649	7/11/2013	CCSA - Composite	Final 001	Composite - W	Ruggles, Dan
17	523	8/6/2013	1308011540	8/1/2013	CCSA - Composite	Effluent	Composite - W	Ruggles, Dan
18	468	8/20/2013	1308141642	8/14/2013	CCSA - Composite	Effluent	Composite - W	Ruggles, Dan
19	436	9/13/2013	1309101556	9/10/2013	CCSA - Composite	Final	Composite - W	Ruggles, Dan